

FIG. 1

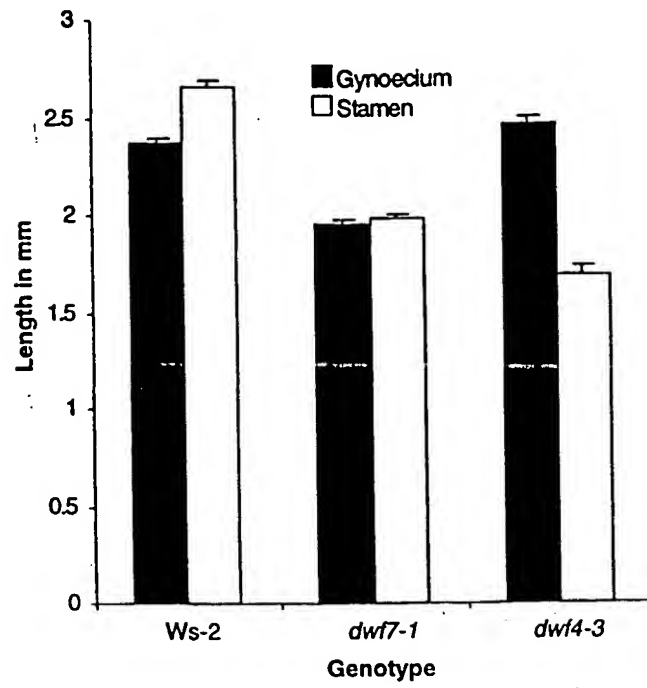


FIG. 2

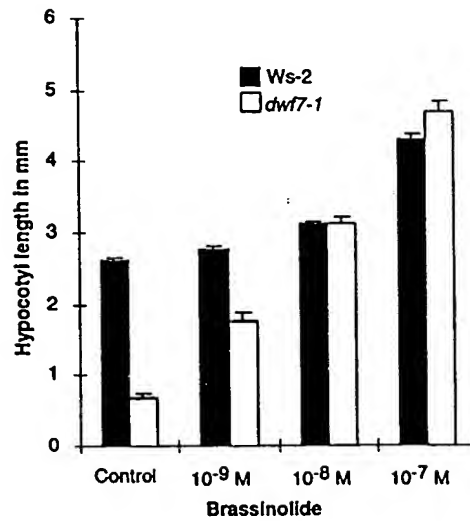


FIG. 3

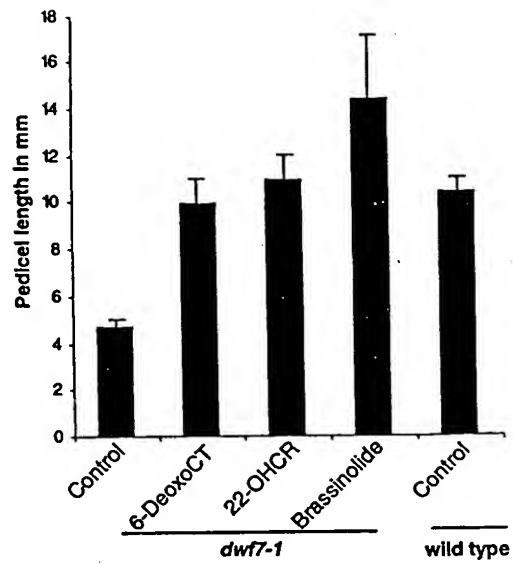


FIG. 4

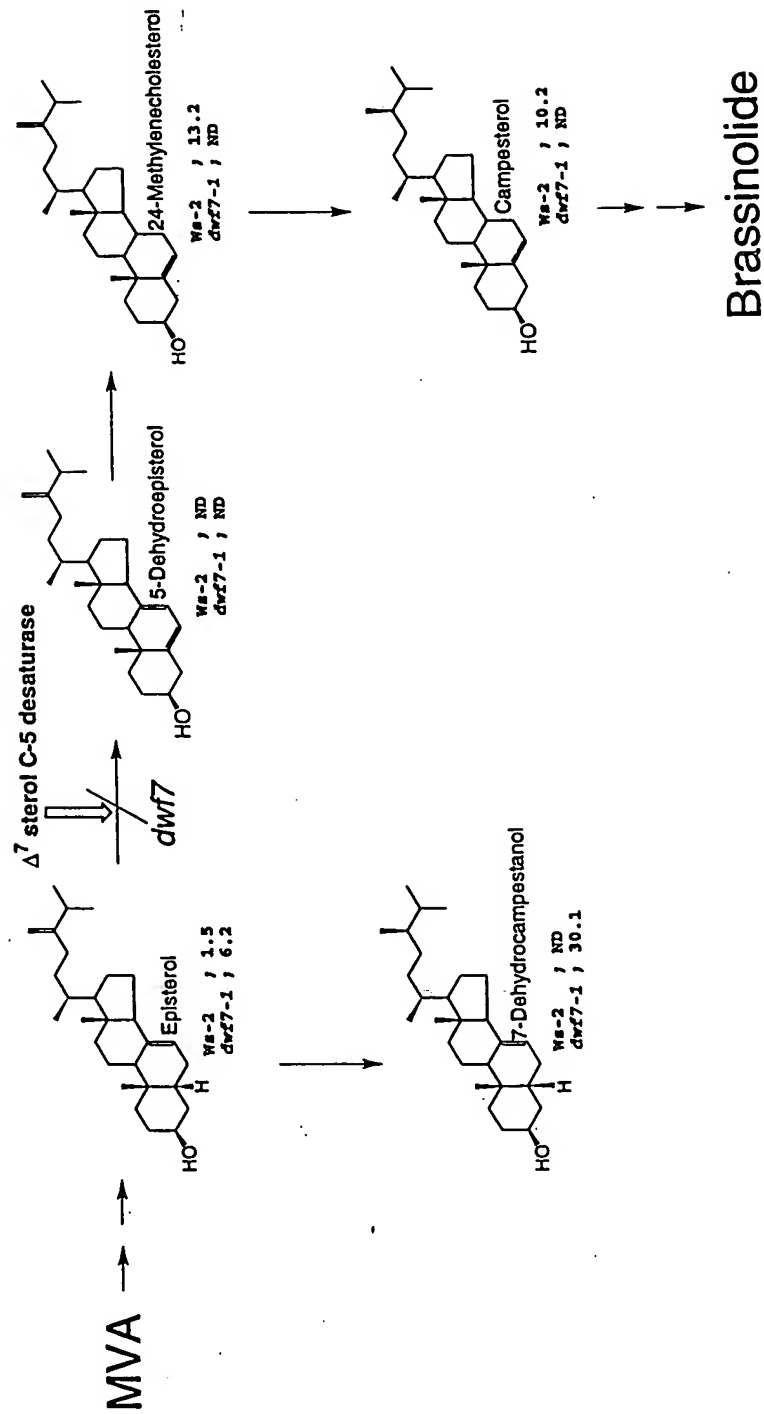


FIG. 5

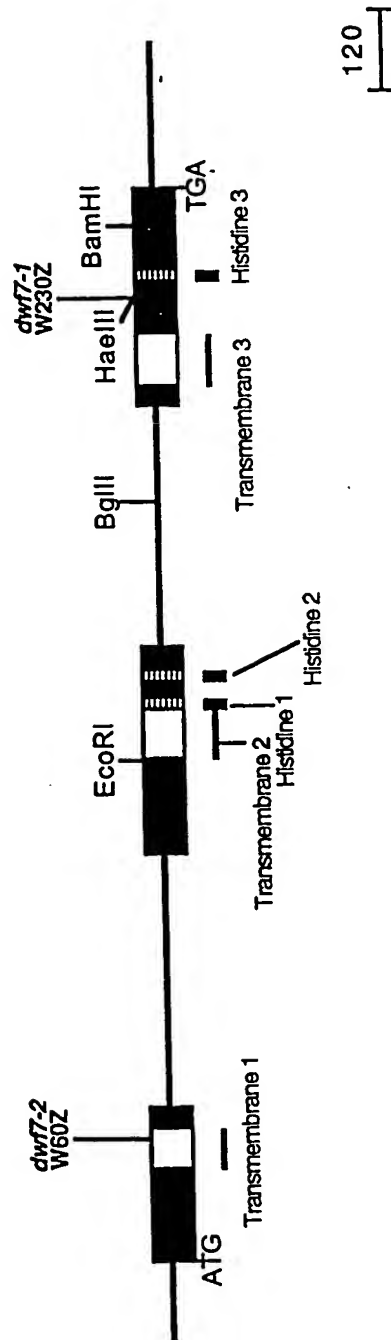


FIG. 6

FIG. 7

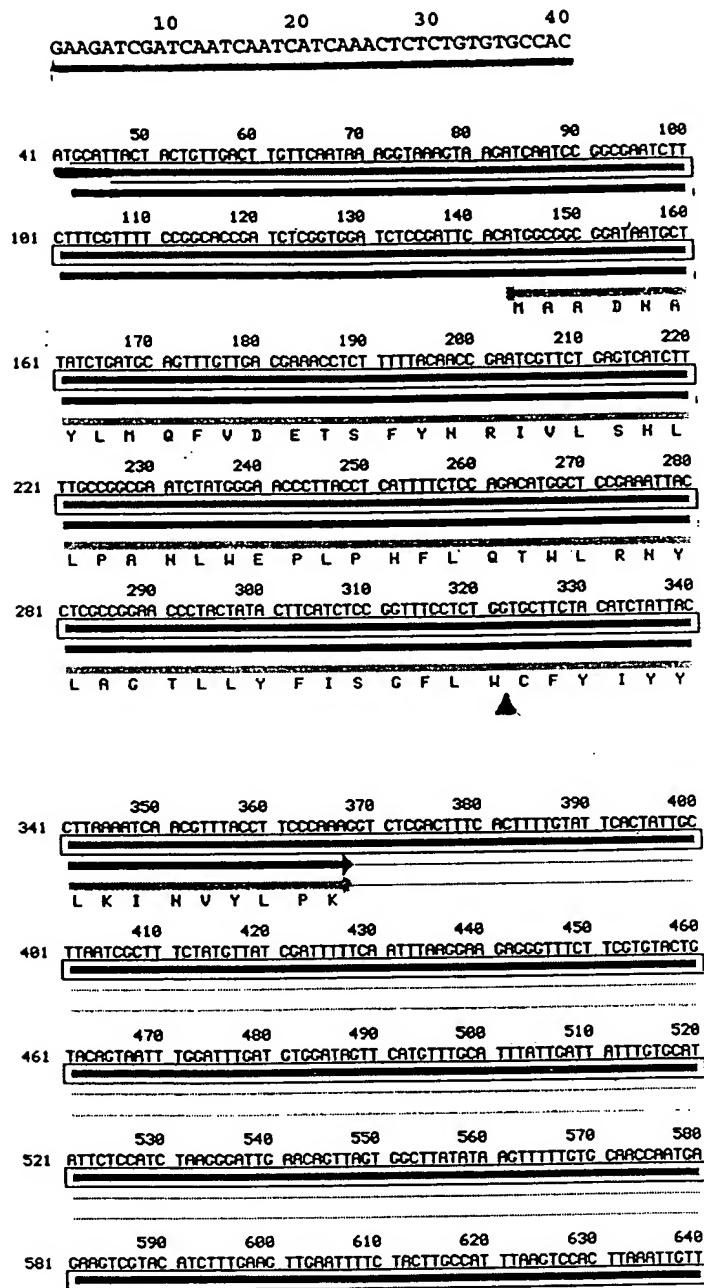


FIG. 8A

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      650      660      670      680      690      700
641 TCTTGAGCTG ATGTCTTACT TTGAGACACA TTCCTTTTCT GCTCTCTCA GACTCTCTCT
      710      720      730      740      750      760
701 TAGTTTCAAA TCCTTTTTCG TCTCTTTTCC TTCAGATCCA ATCTCTACAA TAAGCCCTAT
      770      780      790      800      810      820
761 CCGTTTCCAA ATCTTTTTCG CAATGAGGCC TATGCCATCG TACACTCTTC TTCACCTGT
      830      840      850      860      870      880
821 CTCCGACGCT ATCATTCGAC CTCCTTCGAC CAATCTTTT CCTACCATAG ACCATTCGG
      890      900      910      920      930      940
881 CTGGATCTCG TATTTTCTT ACATCCCAT CTATCTCTT TTCTTCAGT TTCCTATTTA
      950      960      970      980      990      1000
941 TTGGATGCAC ACAGAGCTTC ATGACATTAA GCTCTCTAT AAGTATCTCC ATGCCACCA
      1010      1020      1030      1040
1001 TCATATCTAC AACAGACAGA ATACACTCTC TCCATTTCCC G
      1050      1060      1070      1080      1090      1100
      HI L Y F V Y I R I Y L V F V E F G I Y
      H I Y N K Q N T L S P F A

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FIG. 8B


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      1050      1060      1070      1080
      CTAGTCTT TTAGCTTTCT TCTCTTTAG TCTCTTAA
      -----
      -----
      -----
      1090      1100      1110      1120      1130      1140
1081 AGATTGCTAG CATTTAGTTT CTTACACAA AACCTTTCT CAGCAGCTCC TTCTACTCA
      -----
      -----
      -----
      1150      1160      1170      1180      1190      1200
1141 ATCAGATT TCCATTCTT ATCCATAAG TACCCAGAA CCTAGATT ATATAATCT
      -----
      -----
      -----
      1210      1220      1230      1240      1250      1260
1201 CAGCTGATT ACTTCATA TCTCAGAG ACTTCTACT TACCCAGCT TTACTTCT
      -----
      -----
      -----
      1270      1280      1290      1300      1310      1320
1261 CTCTTCTCT TCTGCTCTG GACTCATTC AATCAGAG AACCTTTT ATCTACTTC
      -----
      -----
      -----
      -----
      -----
      1330      1340      1350      1360      1370      1380
1321 CTGAGCTTA TCTTCTTA TCCAGCATG TCACCTTA TATTACTCT AACCTCTTA
      -----
      -----
      -----
      -----
      -----
      1390      1400      1410      1420      1430      1440
1381 CCTTTTCTT TACAGGCTT GCATTTCAC CAGTACGCG CATATTTCG CCTGTACCG
      -----
      -----
      -----
      -----
      -----
      C L A F H P V D G I L Q A V P
      -----
      1450      1460      1470      1480      1490      1500
1441 ATGTGATAG CCTTTTATA CTCCCATTC ATTTCACAC TCATATAGT CTTTCTTCA
      -----
      -----
      -----
      -----
      -----
      H V I A L F I V P I H F T T H I G L L F
      -----
      1510      1520      1530      1540      1550      1560
1501 TGGACCGAT ATGACCGCG AACATCATC ACTCATCCA TGGACATC TGGCCATTA
      -----
      -----
      -----
      -----
      -----
      H E A I M T A N I H D C I H G N I U P V
      -----
      -----
      -----
      1570      1580      1590      1600      1610      1620
1561 TGGTCCAGG ATACCATAG ATACCCACA CCACATACA CATACTAT CTCATTATA
      -----
      -----
      -----
      -----
      -----
      H C A C Y H T I H H T T Y K H N Y G H Y

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FIG. 8C

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      1630      1640      1650      1660      1670      1680
1621 CCAATATCCAT CCATTGCCATC TTGGCTCTC TTAGGCATCC TCTCTTAGAA CAGCATGACA
      T I M M D M M F C S L R D P L L E E D D
      1690      1700      1710      1720      1730      1740
1681 ACACACACAG CTTCAACAAA CCACAGTCAG ATGCCCACT TCGGTTTCT TCTCTCTTT
      H K D S F K K A E
      1750      1760      1770      1780      1790      1800
1741 TGTCTTGTCT TGTCTTCTT CAACTTCA GCCTTCTG TCTTTTCT TCTCTTCT
      1810      1820      1830      1840      1850      1860
1801 ATTCTGTCT CTCTCTCAC CTTCCATT ATATCTTAC AACATTTC TCTCTAGTT
      1870      1880      1890
1861 AAAATCTA ATCTTTGAT CATCTTCA
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FIG. 8D

1 MAADNAYLMQ FVDETSFYNR IVLSHLLPAN LWEPLPHFLQ TWLRNYLAGT
51 LLYFISGFLW CFYIYYLKIN VYLPKDAIPT IKAMRLQMFV AMKAMPWYTL
101 LPTVSESMIE RGWTKCFASI DEFGWILYFV YIAIYLVFVE FGIYWMHREL
151 HDIKPLYKYL HATHHIYNKQ NTLSPFAGLA FHPVDGILQA VPHVIALFIV
201 PIHFTTHIGL LFMEAIWTAN IHDCIHGNIW PVMGAGYHTI HHTTYKHNYG
251 HYTIWMDWMF GSLRDPLLEE DDNKDSFKKA E

FIG. 9

10 30 50
GTTTGGTATTTATTGGATGCACAGAGAGCTTCATGACATTAAGCCTCTCTATAAGTATCT
CAAACCATAAATAACCTACGTGTCTCTCGAAGTACTGTAATTCGGAGAGATATTCATAGA

70 90 110
CCATGCCACCCATCATATCTACAACAAGCAGAATACACTCTCTCCATTTGCCGGTAAGTG
GGTACGGTGGGTAGTATAGATGTTGTTTCGTCTTATGTGAGAGAGGTAAACGGCCATTAC

130 150 170
TTTTTCAGTTTGTTCCTTCTTTAGTTCTTGTAAGATTGGTAGCATTTAGTTTCTTACCAG
AAAAGTCAAACAAGAAGAAATCAAGAACATTTTCTAACCATCGTAAATCAAAGAATGGTC

190 210 230
AAAAGACTTTGTCTAGCAGCTGCTTGTACTCCAAATCACATTTTGCATTCTTATCCATAA
TTTTCTGAAACAGTCGTGACGAACATGAGGTTTAGTGTAACGTAAGGAATAGGTATT

250 270 290
AGTAACCAGAAAGGCTAGAATTATATAAATGTCAGCTGCATTACTTCACATATGTCAGAG
TCATTGGTCTTTCCGATCTTAATATATTTACAGTCGACGTAATGAAGTGATACAGTCTC

310 330 350
AGACTTCTGACTTAACCAGAGTTTAGATCTTTGTGTTTCTTCTGGTCTCGGACTGATT
TCTGAAGACTGAATTGGTCTCAAATCTAGAAACACAAAGAGAAGACCAGAGCCTGACTAA

370 390 410
GGAAATGACGAGAAGTTCTTTTATCTACTTCCCTGGAGTGATCTTGGTTAATCCAAGGA
CCTTTACTGCTCTTCAAGAAAATAGATGAAGGGACCTCACATAGAACCAATTAGGTTTCCT

430 450 470
TGTGACATCTAAATATTACTTGTAACCTTCCCTACGTTTTTGTGTTTACAGGGCTTGCAATTCA
ACACTGTAGATTTATAATGAACATTGAAGGAATGCAAAAACAAATGTCCCGAACGTAAGT

490 510 530
CCCAGTAGACGGGATACTTAAGGCTGTACCGCATGTGATAGCGCTGTTATAGTGCCAATT
GGGTCATCTGCCCTATGAATTCCGACATGGCGTACACTATCGCGACAATATCACGGTTAA

550 570 590
CATTTCAAACTCATATAGGTCTTTTGTTCATGGAAGCGATATGGACGGCGAACATCCAT
GTAAAGTGTGAGTATATCCAGAAAACAAGTACCTTCGCTATACCTGCCGCTTGTAGGTA

FIG. 10A

610 630 650
GACTGCATCCATGGCAACATCTGGCCAGTAATGGGTGCAGGATACCATAACGATACACCAC
CTGACGTAGGTACCGTTGTAGACCGGTCAATACCCACGTCCTATGGTATGCTATGTGGTG

670 690 710
ACGACATACAAGCATAACTATGGTCATTATACCATATGGATGGATTGGATGTTTGGCTCT
TGCTGTATGTTTCGTATTGATACCAGTAATATGGTATACCTACCTAACCTACAAACCGAGA

730 750 770
CTTAGGGATCCTCTCTTAGAAGAAGATGACAACAAAGACAGCTTCAAGAAAGCAGAGTGA
GAATCCCTAGGAGAGAATCTTCTTCTACTGTTGTTTCTGTCTGAAGTTCTTTCGTCTCACT

790 810 830
GAATGCCCACTTGGGTTTTGTTCTTCTGTTTTGTCTTGTGTTGTTGTTGTTCAAAGTTTC
CTTACGGGTGAACCCAAAACAAGAAGACAAAACAGAACACAACAACAAGTTTCAAAG

850 870 890
AGCCTTTCTTGTCTTTTTCTTCTTCTTCTTATTTCATGTGTCTCTCTCAACCTTTCCAAT
TCGGAAAGAACAAGAAAAAGAAGAAGAATAAGTACACAGAGAGAGTTGGAAGGTTA

910 930 950
TATATTGTTACAAACATTTGCTGTCTAGTTTTAAACATGTAAATGTTTGATGATCTTTGC
ATATAACAATGTTTGTAAACGACAGATCAAATTTTGTACATTTACAACTACTAGAAACG

970 990 1010
AAGACTCCATTTTGTTTAAGGTAAACCTTGAATCTCATAGATTGTCGATTGTTGGTATT
TTCTGAGGTAAAAACAAATTCATTTGGAACCTAGAGTATCTAACAGCTAACAACCATAA

1030 1050 1070
TCCATTTTCAGGTACGGTCTGTAGACTGTAGTCTTGCTGACCAGTCCGGCTTAACCACC
AGGTAAAAGTCCATGCCAAGACATCTGACATCAGAACGACTGGTCAGGCCGAATTGGTGG

1090 1110 1130
CCAAATTTCAAAGATCTCAcCAATCAAAATGCTGGCTGGCCCCAATATATAGATGGGCCA
GGTTTAAAGTTTCTAGAGTgTTAGTTTTACGACCGACCGGGTTATATATCTACCCGGT

1150 1170 1190
GTTAATCCGTCTAGCTTTACTCTTTAGACCTACCTTAGACAGTTAGACACCTGCTAATTA
CAATTAGGCAGATCGAAATGAGAAATCTGGATGGAATCTGTCAATCTGTGGACGATTAAT

FIG. 10B

1210 1230 1250
ATGAGTTTCCTTTTCTTGTTTCAGCAAGTTACCTGTGTTACTTGAGAGTTGAGTTAATGG
TACTCAAAGGAAAAAGAACAAGTCGTTCAATGGACACAATGAACTCTCAACTCAATTACC

1270 1290 1310
TAGTAAACGCAATTTAACCCCTTATAAGTTTAATCGTATTCAACGAATGACCCAGAGACTT
ATCATTGCGTTAAATTGGGAATATTCAAATTAGCATAAGTTGCTTACTGGGTCTCTGAA

1330 1350 1370
TAAATAAATCCATCGTAACCCCTCACTTCAAAATTCTTTTAAAAAGTAGCAAATCATT
ATTTATTAGGTAGCATTGGGAGGTGAAGTTTAAAGAAAAATTTTCATCGTTTAGTAAA

1390 1410 1430
AAATATTGTAAGTTTGCTTCATTGCAAATTGTAGCTACAGATCTCAAAGCTCCTCCTGTT
TTTATAACATTCAAACGAAGTAAGCTTTAACATCGATGTCTAGAGTTTCGAGGAGGACAA

1450 1470 1490
GGCCATATCTCTCTCTAACAACGCATAGTAACACTTGACCACAGTTTGACTTCTCGGCG
CCGGTATAGAGAGAGATTGTTTTCGTATCATTGTGAAGTGGTGTCAAACCTGAAGAGCCGC

1510 1530 1550
GTTTCATGGCGGCGACTATGGCAGATTATAATGATCAGATCGTCAATGAGACCTCTTTTT
CAAAGTACCGCGCTGATACCGTCTAATATTACTAGTCTAGCAGTTACTCTGGAGAAAAA
M A A T M A D Y N D Q I V N E T S F Y

1570 1590 1610
ACAACCGAAtGGTTCTGAGTCACCTTTTGCCGgTGAATCTATGGGAACCTTTACCaCATT
TGTTGGCTTaCCAAGACTCAGTGGAAAACGGCcACTTAGATACCCTTGGAATGGtGTAA
N R M V L S H L L P V N L W E P L P H F

1630 1650 1670
TCCTCCAGACATGGCTCCGGAACCTCGCCGGAACATACTCTACTTCATCTCCGGCT
AGGAGGTCTGTACCGAGGCCTTGATGGAGCGGCCTTTGTATGAGATGAAGTAGAGCCGA
L Q T W L R N Y L A G N I L Y F I S G F

1690 1710 1730
TCCTCTGGTGCTTCTACATCTATTACCTTAAACTCAACGTTTACGTCCCCAAAGGTTACT
AGGAGACCACGAAGATGTAGATAATGGAATTTGAGTTGCAAATGCAGGGGTTTCCAATGA
L W C F Y I Y Y L K L N V Y V P K

FIG. 10C

1750 1770 1790
TTTTTCAATTTTCGATGTTCTGTTTTGAAACCTTTCTTTTGTTGATTCTTCGATTGTATC
AAAAAGTTAAAGCTACAAGACAAAACCTTTGGAAAGAAAACAATAAGGAAGCTAACATAG

1810 1830 1850
GCCTGATAGATTGTGTTATACGTTAACCTTTTTTCTTACTGTTACTTTTCAGTTCTTGTC
CGGACTATCTAACACAATATGCAATTGGAAAAAAGAATGACAATGAAAGTCAAGAACAG

1870 1890 1910
TTCTACTTCTCATTTAATTAGTTTTAAAGTTTAATATTTTGGCTAATCCACATTTTTTA
AAGATGAAGAGTAAATTAATCAAAAATTCAAATTATAAAAACCGATTAGGTGTAAAAAAT

1930 1950 1970
AGTTGAATCTTCCATGAAATTTGAGCTCAAAATATACCATGAAATTGAAATTTGTGGTTC
TCAACTTAGAAGGTACTTTAACTCGAGTTTTATATGGTACTTTAACTTTAAACACCAAG

1990 2010 2030
TTAGTTCTATTTCTTGCTTGGTTTCTTCTATTTTTGTGGTTAGAATCCATTCTACGAGA
AATCAAGATAAAGAACGAACCAAAGAAGATAAAAACACCAATCTTAGGTAAGGATGCTCT
E S I P T R

2050 2070 2090
AAGGCAATGCTTTTGCAAATATACGTGGCAATGAAGGCTATGCCTTGGTACACTCTTCTT
TTCCGTTACGAAAACGTTTATATGCACCGTTACTTCCGATACGGAACCATGTGAGAAGAA
K A M L L Q I Y V A M K A M P W Y T L L

2110 2130 2150
CCAGCTGTCTCTGAGTATATGATCGAGCATGGTTGGACCAAATGTTACTCTACACTTGAC
GGTCGACAGAGACTCATATACTAGCTCGTACCAACCTGGTTTACAATGAGATGTGAACTG
P A V S E Y M I E H G W T K C Y S T L D

2170 2190 2210
CATTTCAACTGGTTCCTCTGTTTCCTCTACATAGCTCTCTATCTTGTTTTAGTTGAGTTT
GTAAAGTTGACCAAGGAGACAAAGGAGATGTATCGAGAGATAGAACAAAATCAACTCAAa
H F N W F L C F L Y I A L Y L V L V E F

2230 2250 2270
ATGATTTATTGGGTTACAAAAGAGCTTCATGACATTAAATTTCTCTATAAGCATCTCCAT
TACTAAATAACCCAAGTGTTCGAGTACTGTAATTTAAAGAGATATTCGTAGAGGTA
M I Y W V H K E L H D I K F L Y K H L H

FIG. 10D

2290 2310 2330
GCTACCCATCATATGTACAACAAGCAAAACACACTCTCTCCATTTGCCGGTATGTCAAAG
CGATGGGTAGTATACATGTTGTTTCGTTTTGTGTGAGAGAGGTAAACGGCCATACAGTTTC
A T H H M Y N K Q N T L S P F A

2350 2370 2390
CTATATGTTCTCAATCTAAATTCAAGAGCTTGTATCAATGGTGACTTCTTTACTTGATGT
GATATACAAGAGTTAGATTTAAGTTCTCGAACATAGTTACCACTGAAGAAATGAACTACA

2410 2430 2450
TTTTCGGGTTTTTCAGGGCTCGCATTCCATCCGCTGGACGGGATACTTCAGGCTATACCGC
AAAAGCCCCAAAAGTCCCGAGCGTAAGGTAGGCGACCTGCCCTATGAAGTCCGATATGGCG
G L A F H P L D G I L Q A I P H

2470 2490 2510
ACGTGATAGCGCTGTTTATAGTGCCGATTCATCTCATAACACATCTGAGTCTTTTGTGTTT
TGCACTATCGCGACAAATATCACGGCTAAGTAGAGTATTGTGTAGACTCAGAAAACAAAA
V I A L F I V P I H L I T H L S L L F L

2530 2550 2570
TGGAAGGGATATGGACAGCAAGCATCCATGATTGCATACATGGtAACATCTGGCCTATAA
ACCTTCCCTATACCTGTCGTTTCGTAGGTACTAACGTATGTACCaTTGTAGACCGGATATT
E G I W T A S I H D C I H G N I W P I M

2590 2610 2630
TGGGTGCAGGATACCATAACCATAACACATAACAAGCATAACTATGGTCATTATa
ACCCACGTCTTATGGTATGGTATGTGGTATGTTGTATGTTTCGTATTGATACAGTAATa
G A G Y H T I H H T T Y K H N Y G H Y T

2650 2670 2690
CCATATGGATGGaCTGGATGTTTGGCTCTCTTATGGTTCCTTTAGCAGAAAAAGACAGTT
GGTATACCTACCTGACCTACAAACCGAGAGAATACCAAGGAAATCGTCTTTTTCTGTCAA
I W M D W M F G S L M V P L A E K D S F

2710 2730 2750
TCAAGGAGAAAGAAAAGTGAGAATGTTCAATGCTCACATGTATTCTTCATATGTTGCTCT
AGTTCCTCTTTCTTTTCACTCTTACAAGTTACGAGTGTACATAAGAAGTATACAACGAGA
K E K E K *

2770 2790 2810
TCTCGTGACTCTTATTAACCTTTCTAATCACTTTGGTGGAATTAACATGACTGCA
AGAGCACTGAGAATAATTTTGGAAAGATTAGTGAAACCACCTTAATTTTTGTACTGACGT

FIG. 10E

2830 2850 2870
TAATTTGATGCAAAGTTTCAGACTTTTATTGCTAAAAATCTCTGATGATTATTAACCTCA
ATTAAACTACGTTTCAAAGTCTGAAAATAACGATTTTGTAGAGACTACTAATAATTGGAGT
2890 2910
ATTATATAATTGcTGGATGAAGAGTTCAAATTTGGACTAAATCTG
TAATATATTAACgACCTACTTCTCAAGTTTAAACCTGATTTAGAC

FIG. 10F

1 maatmadynd qivnetsfyn rmvlshllpv nlweplphfl qtwlrnylag
51 nilyfisgfl wcfyiyykl nvyvpkesip trkamllqiy vamkampwyt
101 llpavseymi ehgwtkcyst ldhfnwflcf lyialylvlv efmiywhke
151 lhdikflykh lhathhmynk qntlspflagl afhpldgilq aiphvialfi
201 vpihlithls llflegiwta sihdcihgni wpimgagyht ihhttykhny
251 ghytiwmdwm fgslmvplae kdsfkekek

FIG. 11